AMENDMENTS TO THE CLAIMS WITH MARKINGS TO SHOW CHANGES MADE, AND LISTING OF ALL CLAIMS WITH PROPER IDENTIFIERS

1.　(Currently amended)　A system for simulating a production and/or processing machine to optimize selection of machine hardware and a machine controller, comprising:

　　a [[first]] storage device for storing mechanical and electrical parameters of components suitable for use in the machine,

　　a mechanical simulator executing a mechanical simulation program configured for setting up at least one mechanical model of the machine with at least a subset of the components,

　　a control simulator executing a control simulation program for simulating at least the subset of the components, said mechanical simulation program and said control simulation program embodied on a computer-readable medium, and

　　a display for displaying a response of the mechanical model to the control simulation program,

　　wherein the mechanical model and the control simulation program are interactively adjusted to optimize cooperation between the selection of the subset of the components and the control simulation program so as to produce an optimized machine hardware selection and an optimized machine controller

　　a simulator for performing a mechanical simulation of the machine as well as for supplying simulation data, and

　　a second device for setting up a model of a controller or drive for the machine based on the simulation data.

2.　(Canceled).

3. (Currently amended) The system of claim 1, wherein the mechanical simulator first device is adapted to set up a mechanical model models of the machine machines as a graphic representation.

4. (Currently amended) The system of claim 1, wherein the control simulation program is implemented as an engineering system.

5. (Currently amended) The system of claim 1, and further comprising a third device that generates a computer program embodied on a computer-readable medium for controlling the optimized machine hardware based on the optimized machine model of the controller or drive.

6. (Canceled).

7. (Currently amended) The system of claim 1, wherein the control simulator second device transmits updated parameter data of the components models that are set up by the second device, to the mechanical simulator first device, which then generates an updated mechanical model based on the updated parameter data of the control or drive models, which is in turn used by to have the control simulator to update the control repeat a mechanical simulation program.

8. (Currently amended) The system according to claim 1, and further including a memory for storing parameter information data for hardware components of the machine.

9. (Currently amended) The system of claim 8, wherein the stored information parameter data are provided in form of objects representing the corresponding hardware components.

10. (Currently amended) The system of claim 9, wherein the objects assist the <u>mechanical simulation program</u> <s>first device</s> in setting up the mechanical model.

11. (Currently amended) The system of claim 1, and further comprising an additional memory associated with the <u>control simulator</u> <s>second device</s> for storing images of the objects.

12. (Currently amended) The system of claim 8, wherein the <u>control simulator</u> <s>second device</s> uses semantic contained in the <u>parameter</u> <s>information</s> data to generate <u>the control simulation</u> <s>a computer</s> program.

13. (Currently amended) The system of claim 1, wherein the <u>mechanical simulation program</u> <s>first device</s> and the <u>control simulation program</u> <s>second device</s> use the same variable names.

14. (Currently amended) The system of claim 1, wherein the system receives data from and/or transmits data to the machine via an intranet [[and/]] or the Internet.

15. (Currently amended) A method for simulating a production and/or processing machine <u>to optimize performance of machine hardware and machine controller</u>, comprising the steps of:

generating a mechanical model of the machine,

<u>storing mechanical and electrical parameters of components suitable for use in the machine,</u>

<u>modeling a mechanical performance of the machine with the mechanical simulation model using at least a subset of the components and the associated stored parameters,</u>

<u>providing a control simulation program executing on a computer for</u>

controlling the subset of the components in the mechanical simulation model,

evaluating a response of the mechanical simulation model to the control simulation program,

~~performing a mechanical simulation of the machine to generate simulation data,~~ and

interactively adjusting the components in the mechanical model and the control simulation program so as to optimize combined performance of the machine hardware and the machine controller ~~generating a model of a controller or drive for the machine based on the simulation data~~.

16. (Canceled).

17. (Original) The method of claim 15, and further comprising the step of generating a graphic visualization of the mechanical model of the machine.

18. (Currently amended) The method of claim 15, wherein [[the]] a model of the combined performance of the machine hardware and the machine controller ~~or drive~~ is set up [[to]] as an engineering system.

19. (Currently amended) The method of claim [[15]] 18, and further comprising the step of generating a computer program for optimized ~~controlling the~~ machine control based on the model ~~of the controller or drive~~.

20. (Original) The method of claim 15, wherein the simulation data are graphically displayed.

21. (Currently amended) The method of claim 15, and further comprising the steps of updating the mechanical model based on data transmitted from the control simulation program ~~controller or drive model~~, and repeating the mechanical simulation.

22. (Canceled).

23. (Currently amended) The method of claim 22, wherein the <u>parameter</u> information data are stored in form of objects that represent [[a]]corresponding hardware components.

24. (Original) The method of claim 23, wherein the mechanical model is generated based on the objects.

25. (Currently amended) The method of claim 23, and further including the step of storing images of the objects in an additional memory associated with a device that generates the control and/or drive model for the machine.

26. (Currently amended) The method of claim [[22]] <u>15</u>, and further including the step of generating a computer program based on [[the]] semantic contained in the information data<u> of the component parameters</u>.

27. (Currently amended) The method of claim 26, wherein variable names used when generating the mechanical model are identical to variable names used when generating the computer <u>control simulation program</u>.

28. (Currently amended) The method of claim 15, and further including the step of receiving [[and/]] or transmitting data via an intranet [[and/]]or the Internet.

29. (Currently amended) A computer program, residing on a computer-readable medium, for simulating a production and/or processing machine, the program comprising instructions for causing a computer to

<u>generate</u> a mechanical model of the machine <u>based on stored mechanical and electrical parameters of components suitable for use in the machine,</u>

model a mechanical performance of the machine with the mechanical simulation model using at least a subset of the components and the associated stored parameters,

simulate control of the subset of the components in the mechanical simulation model,

evaluating a response of the mechanical simulation model to the simulated control, and

interactively adjust the components in the mechanical model and the control simulation program so as to optimize machine performance

~~perform a mechanical simulation of the machine to generate simulation data, and~~

~~generate a model of a controller or drive for the machine based on the simulation data.~~